EHC ASSOCIATES
ENVIRONMENTAL CONSULTANTS & ABATEMENT CONTRACTORS

March 14, 2023 *PA HIC # 195*

Schuylkill Valley School District
929 Lake Shore Drive
Leesport, PA 19533

Attn: Casey Blankenbiller

Re: Spore Trap Air Sampling Services
Elementary School, 62 Ashley Way, Leesport, PA
EHC Project No.: 210141-009

Dear Mr. Blankenbiller:

Please review the attached laboratory analysis report in regard to the spore trap air sampling performed at the above-referenced properties on March 13, 2023. Air samples were collected from the following locations:

Sample 01 – Room #C-204, near windows;
Sample 02 – Room #C-206, near windows;
Sample 03 – Room #C-208, near windows;
Sample 04 – Room #C-106, near windows;
Sample 05 – Outside Baseline, behind docks.

At the current time, there are no established "safe" levels of mold spores in regard to indoor mold spore levels. However, the general consensus among experts in the industry is that interior spore levels should be generally equal to the levels found outside of a home or building.

As indicated on the enclosed report, at the time of sampling, the spore counts are currently within acceptable ranges (indoor compared to outdoor).

Please note that a limited, non-invasive visual inspection was performed. Although air sample results indicate low spore counts, this does not mean that a home or building is free of mold growth. When moisture is not present mold will become dormant and stop producing spores. EHC makes every attempt to detect mold growth using a combination of a thorough visual inspection, air sampling, and years of field experience.

At the time of inspection, no visible mold growth was observed anywhere at any of the sample locations throughout the Elementary School where Spore Traps were collected. It should be noted that there were several live houseplants near the windows in Room #C-208, and two live plants near the windows in Room #C-106. I checked the soil in each live plant for moisture, and determined that all of the planters were fairly dry. House plants can sometimes skew interior Spore Trap samples if the plants are over-watered and provide the means for mold to proliferate. This did not seem to be a concern at the time of sampling.

In order to prevent microbial growth, we recommend that Relative Humidity (R.H.) be consistently maintained below 50% in all areas of the building. Additionally, all areas should be inspected frequently for pipe leaks or for signs of water intrusion and cleaned and dried promptly upon occurrence.

Please contact my office with questions or concerns, or if additional information is needed.

Sincerely,

Rick Dom
Project Manager

Encl's.: Laboratory Analysis Report
Invoice No. 210141-009

HAYES MICROBIAL CONSULTING

#23010800

Analysis Report prepared for

EHC Associates, Inc.

2502 Horseshoe Rd
Lancaster, PA 17601

Phone: **(717) 656-3008**

210141-009
Schuylkill Valley School District
@ Elementary School
62 Ashley Way
Leesport, PA 19533

Collected: **March 13, 2023**
Received: **March 14, 2023**
Reported: **March 14, 2023**

We would like to thank you for trusting Hayes Microbial for your analytical needs!
We received 5 samples by FedEx in good condition for this project on March 14th, 2023.

The results in this analysis pertain only to this job, collected on the stated date, and should not be used in the interpretation of any other job. Information supplied by the customer can affect the validity of results. These results apply only to the samples as received. This report may not be duplicated, except in full, without the written consent of Hayes Microbial Consulting, LLC.

All information provided to Hayes Microbial is confidential information relating to our customers and their clients. We will not disclose, copy, or distribute any information verbally or written, except to those designated by the customer(s). We take confidentiality very seriously. No changes to the distribution list will be made without the express consent of the customer.

This laboratory bears no responsibility for sample collection activities, analytical method limitations, or your use of the test results. Interpretation and use of test results are your responsibility. Any reference to health effects or interpretation of mold levels is strictly the opinion of Hayes Microbial. In no event, shall Hayes Microbial or any of its employees be liable for lost profits or any special, incidental or consequential damages arising out of the use of these test results.

Steve Hayes, BSMT(ASCP)
Laboratory Director
Hayes Microbial Consulting, LLC.

EPA Laboratory ID: VA01419

Lab ID: #188863

DPH License: #PH-0198

Rick Dom
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#23010800

Spore Trap +
SOP - #HMC101

Sample Number*	1	35269233		2	35269214		3	35269236		4	35269211	
Sample Name*	Room #C-204			Room #C-206			Room #C-208			Room #C-106		
Sample Volume*	75 L			75 L			75 L			75 L		
Reporting Limit	13 spores/m³			13 spores/m³			13 spores/m³			13 spores/m³		
Background	2			2			2			2		
Fragments	ND			ND			ND			ND		
Particles	Dander	Pollen	Fiber	Dander	Pollen	Fiber	Dander	Pollen	Fiber	Dander	Pollen	Fiber
Counts	2900 / m³		80 / m³	1700 / m³		80 / m³	1100 / m³		53 / m³	2700 / m³		80 / m³
Organism	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**	**Raw Count**	**Count / m³**	**% of Total**
Alternaria												
Ascospores	6	80	60.0%	4	53	50.0%	2	27	50.0%	2	27	33.3%
Aspergillus|Penicillium	3	40	30.0%	3	40	37.5%	2	27	50.0%	3	40	50.0%
Basidiospores	1	13	10.0%							1	13	16.7%
Bipolaris|Drechslera												
Chaetomium												
Cladosporium				1	13	12.5%						
Curvularia												
Epicoccum												
Fusarium												
Memnoniella												
Myxomycetes												
Pithomyces												
Stachybotrys												
Stemphylium												
Torula												
Ulocladium												
Total	10	133	100%	8	106	100%	4	54	100%	6	80	100%

Water Damage Indicator | Common Allergen | Slightly Higher than Baseline | Significantly Higher than Baseline | Ratio Abnormality

* indicates data provided by the customer

Collected: **Mar 13, 2023** Received: **Mar 14, 2023** Reported: **Mar 14, 2023**

HAYES MICROBIAL CONSULTING

Project Analyst: Steve Hayes, BSMT — Date: **03 - 14 - 2023**

Reviewed By: Ramesh Poluri, PhD — Date: **03 - 14 - 2023**

3005 East Boundary Terrace, Suite F. Midlothian, VA. 23112 (804) 562-3435 contact@hayesmicrobial.com

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#23010800

Spore Trap +
SOP - #HMC101

Sample Number*	5	35269231	
Sample Name*	**Outside Baseline**		
Sample Volume*	75 L		
Reporting Limit	13 spores/m³		
Background	2		
Fragments	ND		
Particles	**Dander**	**Pollen**	**Fiber**
Counts	130 / m³	13 / m³	13 / m³
Organism	**Raw Count**	**Count / m³**	**% of Total**
Alternaria			
Ascospores	12	160	52.2%
Aspergillus|Penicillium	3	40	13.0%
Basidiospores	5	67	21.7%
Bipolaris|Drechslera			
Chaetomium			
Cladosporium	3	40	13.0%
Curvularia			
Epicoccum			
Fusarium			
Memnoniella			
Myxomycetes			
Pithomyces			
Stachybotrys			
Stemphylium			
Torula			
Ulocladium			
Total	23	307	100%

Water Damage Indicator | Common Allergen | Slightly Higher than Baseline | Significantly Higher than Baseline | Ratio Abnormality

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Spore Trap Information

Reporting Limit	The Reporting Limit is the lowest number of spores that can be detected based on the total volume of the sample collected and the percentage of the slide that is counted. At Hayes Microbial, 100% of the slide is read so the LOD is based solely on the total volume. Raw spore counts that exceed 500 spores will be estimated.
Blanks	Results have not been corrected for field or laboratory blanks.
Background	The Background is the amount of debris that is present in the sample. This debris consists of skin cells, dirt, dust, pollen, drywall dust and other organic and non-organic matter. As the background density increases, the likelihood of spores, especially small spores such as those of Aspergillus and Penicillium may be obscured. The background is rated on a scale of 1 to 5 and each level is determined as follows: **NBD:** No background detected due to possible pump or cassette malfunction. Recollect sample. (Field Blanks will display NBD) **1 :** <5% of field occluded. No spores will be uncountable. **2 :** 5-25% of field occluded. **3 :** 25-75% of field occluded. **4 :** 75-90% of field occluded. **5 :** >90% of field occluded. Suggested recollection of sample.
Fragments	Fragments are small pieces of fungal mycelium or spores. They are not identifiable as to type and when present in very large numbers, may indicate the presence of mold amplification.
Control Comparisons	There are no national standards for the numbers of fungal spores that may be present in the indoor environment. As a general rule and guideline that is widely accepted in the indoor air quality field, the numbers and types of spores that are present in the indoor environment should not exceed those that are present outdoors at any given time. There will always be some mold spores present in "normal" indoor environments. The purpose of sampling and counting spores is to help determine whether an abnormal condition exists within the indoor environment and if it does, to help pinpoint the area of contamination. Spore counts should not be used as the sole determining factor of mold contamination. There are many factors that can cause anomalies in the comparison of indoor and outdoor samples due to the dynamic nature of both of those environments.
Water Damage Indicator Common Allergen Slightly Higher than Baseline Significantly Higher than Baseline Ratio Abnormality	**Blue:** These molds are commonly seen in conditions of prolonged water intrusion and usually indicate a problem. **Green:** Although all molds are potential allergens, these are the most common allergens that may be found indoors. **Orange:** The spore count is slightly higher than the outside count and may or may not indicate a source of contamination. **Red:** The spore count is significantly higher than the baseline count and probably indicates a source of contamination. **Violet:** The types of spores found indoors should be similar to the ones that were identified in the baseline sample. Significant increases (more than 25%) in the ratio of a particular spore type may indicate the presence of abnormal levels of mold, even if the total number of spores of that type is lower in the indoor environment than it was outdoors.
Color Coding	Fungi that are present in indoor samples at levels lower than 200 per cubic meter are not color coded on the report, unless they are one of the water damage indicators.
Significant Figures	Raw counts and column totals may reflect more than 2 significant figures, but results should only be considered significant to 2 figures.

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Organism Descriptions

Ascospores

Habitat: A large group consisting of more than 3000 species of fungi. Common plant pathogens and outdoor numbers become very high following rain. Most of the genera are indistinguishable by spore trap analysis and are combined on the report.

Effects: Health affects are poorly studied, but many are likely to be allergenic.

Aspergillus|Penicillium

Habitat: The most common fungi isolated from the environment. Very common in soil and on decaying plant material. Are able to grow well indoors on a wide variety of substrates.

Effects: This group contains common allergens and many can cause hypersensitivity pneumonitis. They may cause extrinsic asthma, and many are opportunistic pathogens. Many species produce mycotoxins which may be associated with disease in humans and other animals. Toxin production is dependent on the species, the food source, competition with other organisms, and other environmental conditions.

Basidiospores

Habitat: A common group of Fungi that includes the mushrooms and bracket fungi. They are saprophytes and plant pathogens. In wet conditions they can cause structural damage to buildings.

Effects: Common allergens and are also associated with hypersensitivity pneumonitis.

Cladosporium

Habitat: One of the most common genera worldwide. Found in soil and plant debris and on the leaf surfaces of living plants. The outdoor numbers are lower in the winter and often relatively high in the summer, especially in high humidity. The outdoor numbers often spike in the late afternoon and evening. Indoors, it can be found growing on textiles, wood, sheetrock, moist window sills and in HVAC supply ducts.

Effects: A common allergen, producing more than 10 allergenic antigens and a common cause of hypersensitivity pneumonitis.

Dander

Habitat: Dander is dead skin cells. The average person sheds about 600,000 skin cells per day.

Effects: Sources are people and animals.

Pollen

Habitat: Reproductive structures of trees, grasses and plants.

Effects: Trees, grasses and plants.

HAYES
MICROBIAL CONSULTING

Company: EHC Associates
Address: 2502 Horseshoe Road
Lancaster, PA 17601

N

SHIP: FEDEX - PAK SO
DATE: 03-14-2023

8176 1280 6258

MOLD
23010800

Job Number: 210141-009	Job Name: Schuylkill Valley School District @ Elementary School, 62 Ashley Way Leesport, PA 19533	Mobile: (717) 656-3008	Email: labresults@ehcassociates.com
Collector: Rick Dom		Note: Reasample of specific rooms @ Elementary School	
Date Collected: 03/13/2023			

Analysis Type		Analysis Description	Turnaround	Accepted Media Types
Spore Trap	S	Identification & Enumeration of Fungal Spores	24 Hour	Air Cassettes, Impact Slides
	S+	Spore Trap Analysis with Dander, Fiber, and Pollen counts	24 Hour	Air Cassettes, Impact Slides
Direct ID	D	ID & Semi-Quantative Enumeration of spores and mycelium	24 Hour	Bio-Tape, Tape, Swab, Bulk, Agar Plate
	D+	Direct Analysis with Fully Quantitative spore count	24 Hour	Bio-Tape, Tape, Swab, Bulk, Agar Plate
Culture	C1	Identification & Enumeration of Mold only	7 Day	Air Plate, Agar Plate, Swab, Bulk
	C2	Identification & Enumeration of Bacteria only	4 Day	Air Plate, Agar Plate, Swab, Bulk
	C3	Identification & Enumeration of Mold and Bacteria	7 Day	Air Plate, Agar Plate, Swab, Bulk
	C5	Coliform Screen for Sewage Bacteria	2 Day	Agar Plate, Swab, Bulk
	TPA	Total Particulate Analysis, ID & Count (Does Not Include Mold)	24 Hour	Air Cassettes, Impact Slides, Bio-Tape

#	Number	Sample	Analysis	Volume	Notes
AOL 1	3526 9233	Room #C-204	S+	75 liters	near windows
2	3526 9214	Room #C-206	S+	75 liters	near windows
3	3526 9236	Room #C-208	S+	75 liters	near windows
4	3526 9211	Room #C-106	S+	75 liters	near windows
5	3526 9231	Outside Baseline	S+	75 liters	behind docks
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Released by:	Date: 03/13/2023	Received By:	Date: 3/14